

NEWSLETTER

DECONTAMINATION, DECOMMISSIONING, AND REUTILIZATION DIVISION

OCTOBER 2002

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CHAIR'S MESSAGE

It is strange how long and how short time can be. I've been looking forward to this year as your chair, and already it is a quarter over. In decommissioning, some activities are completed daily, such as removal of piping, but others take months to prepare plans, procedures, coordinate between groups, obtain approvals and train before they can even be started. The same is true for our division, as I'll discuss in this message.

We are fortunate again, in having knowledgeable, talented colleagues as Division officers and on the executive committee. Jim Byrne is the vice chair, Paul Ziemer the secretary and Gerry Motl, the treasurer. Sam Bhattacharya remains involved and will be piloting a trial "white paper" to capture lessons learned from decommissioning that could help the design of the new generation of reactors.

I want to welcome new members to the DD&R Division. We look forward to you participating in the Division, whether it be by delivering presentations at meetings, or by helping run the division. If you are interested in participating, we want you! Please let me know at goodmanl@dtenergy.com, let Jim Rang know if you want to participate in program planning, and/or come to the Program and Executive Committee Meeting at 1300 on Sunday, November 17, if you'll be at the ANS Winter Meeting.

Chair's Message (Continued)

In the past year, we've implemented new bylaws and a new operating manual. Both lay out the guidelines on how the Division does business. They are on the web site for your reading pleasure. Most important from a Division governance standpoint, we prepared a new ANS DD&R Division Long Range Operations Plan. It establishes our division's goals. I encourage you to read it.

We are specifically prioritizing 5 goals in the plan. The first is to encourage members to become more involved. We're going to start that activity by trying to assess what activities provide value to you. You will be receiving a questionnaire via email. Please promptly complete it and return it to us, so that we can have your opinion on what you are interested in. I assure you it is short and will take little time for the value it will provide to us.

The second high priority goal is to consolidate decommissioning meetings. We took a baby step, but important step, by combining two meetings in this year's successful SPECTRUM meeting.

Facilitating communication through expanded use of our web site is our third high priority goal. Please visit <http://ddrd.ans.org>. The site has recently been updated.

The fourth high priority goal is decommissioning standards, while the fifth is supporting ANS public policy statement development.

The decommissioning world is changing. Some of the commercial reactor decommissioning projects will be completed over the next few years. Fortunately for the nuclear industry, plants have been renewing their licenses recently, rather than shutting down for decommissioning. DOE decommissioning work is continuing, but its character and priorities are changing over time. Other reactors are being or could be decommissioned, such as university reactors and a NASA reactor. This is a time to share and capture our knowledge. There could be a gap, especially in the commercial area, between the current and future decommissioning projects. I think that is the greatest good our Division can do – facilitate the communication between decommissioning professionals, and capture that knowledge in papers, articles, standards and policies.

We are also looking at the future of the Division. The questionnaire will ask your opinion. We have started to see a membership decrease though we are still a strong, active division. As projects are completed, that may change, so we are looking towards that future.

I started this message by discussing time and will finish on that topic. I hope you will take a few minutes to read this newsletter and browse the web site. I hope to see some of you at the ANS Winter Meeting in November and more of you at the embedded decommissioning topical meeting in June in San Diego. It will be an excellent venue to share our experience and lessons both in the sessions and in the margins of the meeting. In the past year, the Division set forth a plan for the near future. It is up to us to implement it and improve the value the Division provides you over the new few years. Please take the time to respond to the questionnaire you will receive shortly.

I look forward to working with you over this year as your Chair.

Lynne Goodman

UPCOMING CONFERENCES

2002 Winter Meeting in Washington DC – November 17-21 at the Omni Shoreham Hotel

“Building the World Nuclear Community – Strategies for the Deployment of New Nuclear Technologies” Conference Theme. Your Program Committee has planned 4 panel and 3 Paper sessions in Track 5 “Life Extension and Decommissioning” as shown below:

2002 WINTER MEETING, WASHINGTON, D.C. NOVEMBER 17-21, 2002				
Sunday	Monday 8:30 -11:30AM	Tuesday 8:30 -11:30 AM	Wednesday 8:30 – 11:30 AM	Thursday 10:15 AM – 12:15 PM
	Plenary	(5f) “Saving a Few Hundred Million Dollars: What Nuclear Plant Operations Should be Learning from Plants in Decommissioning”, (TA3) Empire Room – Seats 75 (Panel)	(5h) “Remediation Plans - Implementation Planning” (Formerly LTP Planning) (WA3) Empire Room – Seats 75 (Panel)	(5e) “DD&R: General” (RA3) Empire Room – Seats 75 (Papers)
	Monday 1:00 – 4:00 PM	Tuesday 1:00 – 4:00 PM	Wednesday 1:00 – 4:00 PM	
	(5i) “Decommissioning of Russian Nuclear Submarines”, (MP3) Empire Room – Seats 75 (Papers)	(5b) “License Renewal in the United States”, (TP3) Empire Room – Seats 75 (Panel with 1 Paper)	(5d) “Materials Aging Research Sponsored by NEPO Program”, (WP3) Empire Room – Seats 75 (Papers)	
			(5g) “Hot Topics and Emerging Issues”, (WP9) Governors Room – Seats 80 (Panel) (See Details Below)	

For specifics and additional information on the meeting, check out the Preliminary Program and Registration Materials on the ANS web site at www.ans.org/meetings, or Jim Rang at jsrang@chartermi.net.

2003 ANS Annual Meeting in San Diego California – June 1-5 at the Town and Country Resort and Convention Center

- DD&R is sponsoring an embedded topical entitled “Decommissioning and Spent-Fuel Management” at the 2003 Annual Meeting. Five one half-day concurrent sessions are planned over 2 _ days (Monday afternoon through Wednesday afternoon). Track 1: “Decommissioning – Progress, Lessons Learned and Initiatives” and Track 2: “Spent Fuel and Waste Disposal Forum” will run concurrently with 5 sessions each, 6 papers per session and a minimum of 60 papers in total. Rich St Onge is the TPC. For specifics and additional information, check out the ANS web site at www.ans.org/meetings.

2003 ANS/ENS International Winter Meeting in New Orleans, LA - November 9-13 - DD&R supports the meeting theme of “Nuclear Science and Technology: Meeting the Global Industrial and R&D Challenges of the 21st Century” with several sessions TBD.

HOT TOPICS AND EMERGING ISSUES

DD&R Hot Topics at the ANS 2002 Winter Meeting

On Wednesday, November 20 at 1 p.m., panel members from the nuclear industry and government agencies to speak on hot topics and emerging issues. Scheduled topics and speakers include:

Yucca Mountain Update

Panelist – Paul Harrington, DOE Yucca Mountain Project Characterization Office

Life After Barnwell

Panelists – James Latham, Duratek
Al Rafatti, Envirocare
John Kelly, Entergy Northeast

Update on Private Fuel Storage

Panelists - John Parkyn, Private Fuel
David Blee, NAC Worldwide Consulting

Please join our panelists for a stimulating set of conversations.

DD&R WEB PAGE

The ANS DD&R division website has recently been updated to include the current officers, committee members, bylaws, operating manual, and 5 year plan. The meetings page now includes the schedule for DD&R sponsored and cosponsored meetings at the 2002 ANS Winter Meeting, November 17-21, 2002 in Washington DC. In addition, a Minutes 'button' has been added, from which the minutes of the recent Executive and Program Committee meetings can be accessed. Check it out !! Go to <http://ddrd.ans.org>.

Please send any suggestions for updating or revising our division web page to John E. Gunning, jegunnin@bechtel.com

DD&R DIVISION GOALS AND PLANNING

The DD&R Website, <http://ddrd.ans.org/>, contains a link to the 5 year plan for the division. Division members are actively pursuing many of these goals; the following provides some highlights of ongoing activities.

Goal 1.1 is to assess what the membership is most interested in having the Division provide. We are currently in the last phase of developing a questionnaire to be sent to all members of DD&R to solicit your input to improve the division's use to you the member.

Goal 1.2 is to provide a spectrum of candidates with a range of backgrounds for membership on the DD&R Executive Committee. The nominating committee strives to do this each year and are always looking for willing candidates. If you are interested just contact any of the Officers or Executive Committee members, listed at the DD&R website, <http://ddrd.ans.org/>.

Goal 1.3 is to provide increased participation of foreign countries. The 2002 ANS Winter Meeting in Washington D.C. Monday afternoon session on "Decommissioning of Russian and other Nuclear Submarines" is an exciting step towards fulfilling this goal.

Goal 1.4 is to actively work within the society and with others to consolidate the number of decommissioning related meetings. The recently completed SPECTRUM Conference was a step in this direction in which the FCWM and DD&R Divisions worked together to deliver a single high quality conference which included an embedded Executive Conference on DD&R.

This is just a sample of the over 35 goals DD&R is working to achieve. For more information on the remaining goals go to the DD&R website, <http://ddrd.ans.org/>. If there is a goal you can help with please contact Lynne Goodman, goodmanl@teenergy.com or Jim Byrne, jbyrne@gpu.com, and we will put you to work.

DD&R STANDARDS COMMITTEE

The American Nuclear Society Nuclear Facilities Standards Committee (NFSC) and ANS-23 Decommissioning and Site Remediation Subcommittee continues to work on three active DD&R standards. They are:

- ACTIVE:**
- 1) Decommissioning of Nuclear Production and Utilization Facilities: Defueled Safety Analysis and Emergency Plan
 - 2) Decommissioning of Nuclear Production and Utilization Facilities: Operator Training
 - 3) Validation of Data from Radiological Analyses for Use in Environmental Remediation

One DD&R Standard entitled, "Criteria for Remote Sensing Techniques for Site Characterization in Environmental Remediation" remains in an inactive status. Efforts are still being taken to re-activate this standard.

Completion and approval of active standards 1) and 2) above, although given a first review, have been delayed. It was recommended by participants at the D&D Standards meeting in Florida last June that discussions with the NRC were necessary to determine what D&D standards the NRC believed are the right ones to develop and what standards they would be willing to support development and review. This was the result of a number of documents that have been recently produced both by the NRC and NEI independent of ANS's efforts. Since then, Don Eggett responsible for defining what D&D industry standards should be developed through ANS, has spoken with John Greeves, NRC. It is anticipated that recommended D&D topics from the NRC and NEI for standards will be made available shortly so concurrence from the DD&R Executive Committee and others will be obtained prior to the ANS Winter meeting in November. Finally, a first draft for review of the third active listed standard above has been delayed due to the Working Group members other higher priorities but a revised date should be available by the November meeting.

One thing we should all keep in mind is that because the activities within the decommissioning industry have diminished to some extent, we as an industry need to become smarter and better define the documents and standards we will use for both the near and long term. That is the reason for these discussions with the NRC as mentioned above. In line with this thinking, the ANS NFSC is presently taking on such an initiative by looking for ways to expand the development of ANS standards that could be converted or developed as joint US/International standards in the form of ANS/ISO standards.

Finally, Don Eggett has scheduled a meeting on Tuesday, November 19, 2002 at the ANS Winter Meeting in Washington, D.C. at the OMNI Shoreham Hotel from 7 – 8:30am to discuss D&D standards. Please give consideration to attending this meeting. Your input is most valuable in determining what D&D standards should be developed and ultimately generating quality industry standards!

AWARDS AND HONORS

Mr. Ken Schneider was the winner of the best panel presentation at the Hollywood, FL meeting. An award presentation will be made during the DD&R Executive Committee meeting in Washington, DC, or soon thereafter.

ASME/DOE DECOMMISSIONING HANDBOOK

The ASME/DOE Decommissioning Handbook is still in its first full editing cycle. Dr. Alan Moghissi of the Institute for Regulatory Science (the group assigned the responsibility to pull together each chapter and edit it), has distributed drafts to peer reviewers for comments. As expected, the comments are thorough and extensive. It is not expected to have the document completed this calendar year.

CLEARANCE OF MATERIALS

The NAS report (The Disposition Dilemma: Controlling the Release of Solid Materials from Nuclear Regulatory Commission-Licensed Facilities) was issued in March 2002. The NRC has been reviewing the recommendations contained in this report and the NRC staff has prepared and forwarded a SECY paper to the Commission. The Commission is currently evaluating this paper which is not publicly available as yet. The ANS/SCRS has prepared a draft Position Statement on the subject, which is currently under review by the PPC. If approved by the PPC, it will go to BOD for approval before being released publicly.

This information was provided by Dr. Jas Devgun, Chair, ANS Special Committee on Site Cleanup and Restoration Standards (ANS/SCRS)

RANCHO SECO DECOMMISSIONING UPDATE

Fuel Transfer - The 21st and last dry-fuel storage canister came out of the Spent Fuel Pool in the transfer cask and was placed in the ISFSI on August 21. On August 26th the requirement for manning the control room ended. With the completion of this process the Sacramento Municipal Utility District (SMUD) will be able to cut annual decommissioning costs significantly. Now that the transfer is complete the water in the spent fuel pool will be drained and released and the rack removal will begin. All activated material has been removed.

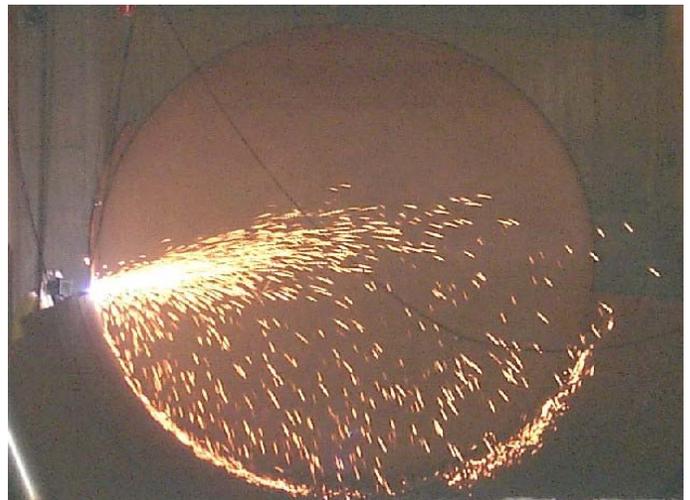
System Dismantlement - System dismantlement continues in the Auxiliary and Reactor Buildings, with greater than 85% completed in the Auxiliary Building. The major remaining Auxiliary Building systems include 3 of 7 underground liquid waste tanks and the ventilation system, which are currently working. Ventilation and small piping systems are being removed in the Reactor Building. Removal of the four reactor coolant pumps and associated reactor coolant piping was completed in September with shipment of the pumps by rail scheduled for October to Envirocare.

Large Components - An insufficient decommissioning fund requires that high dollar activities, such as large component removal, wait for later in the schedule, once funds accumulate from ongoing additions. However, serious planning is in progress. The pressurizer and vessel head may ship to Envirocare next year. The steam generators should go to Envirocare by rail later but might require cutting in half. Other options being considered for the vessel include cut-up or possibly Entombment (or long term Safstor) if costs become prohibitive. Detailed characterization of the vessel and internals has begun.

Site Re-Powering – SMUD is waiting for state approval for a 500 MW natural gas fired plant on utility property south of the current security fence. The plant will make use of the switchyard, water supply and discharge structures.



The Last Spent Fuel Canister on the way to the ISFSI



U/G Liquid Waste Tank Cut-Up after Cleaning



Reactor Coolant Pump Ready for Shipment

FERNALD DECOMMISSIONING UPDATE

Fernald Nears 50 Percent Completion of Decontamination and Decommissioning Activities

The Fernald Environmental Management Project has reached a major milestone in the remediation efforts of its 136-acre former production area, where uranium metal products were produced for the nation's defense program. Plant 6, the former Metals Fabrication Plant, where high purity metals were once machined, has been demolished. Completion of Plant 6 represents the sixth of 10 major facilities decommissioned and demolished since the site's mission changed in the early 1990s to environmental cleanup. This project was completed ahead of schedule and within budget.

Fluor Fernald awarded an \$8.54 million, three-year subcontract in October 1999, to decontaminate and demolish Plant 6, the largest of Fernald's former uranium processing plants. Prior to D&D activities in Plant 6, Fernald Safe Shutdown workers removed more than 205,000 pounds of hazardous materials that remained in process lines and equipment since 1989, when site operations were shut down. The Safe Shutdown program reduced worker exposure to hazardous material and enabled acceleration of demolition activities.

A essential part of Fernald's cleanup strategy is the removal of venerable facilities from the former production area so excavation of the underlying soil can begin. The removal of Plant 6 allows below-grade remediation to commence. In addition to accomplishing schedule and budget requirements, the Plant 6 project maintained an excellent safety record.

Site demolition for remaining structures is scheduled to be completed by 2005. Projects include demolition of Plants 2 and 3 (the Ore Refinery), Plant 8 (the Scrap Recovery Plant) and the Pilot Plant, where workers developed operating prototypes for Fernald's uranium metal production. The goal of the Fernald D&D Program is to safely efficiently assist in the overall Fernald site closure and completion scheduled for 2006. For more information on D&D activities at Fernald visit their web site at <http://www.fernald.gov/>.

SAN ONOFRE UNIT 1 DECOMMISSIONING UPDATE

The San Onofre Large Component Removal team has been working since early 2000 to make plans for removing and transporting Unit 1 Large Components to their disposal sites. These components consist of the Reactor Pressure Vessel (RPV), RPV Head, three SG's, a pressurizer and three reactor coolant pumps. In January of 2002 the project has moved from the planning and site preparation stage to the implementation stage.

The components are essentially ready to lift from their operating positions with the exception of draining the steam generators, which were left with the secondary sides filled for shielding, and removing the remaining structural supports. The components will be lifted out the top of containment using a large 1200 Ton capacity twin crawler crane. The component cubicle concrete roofs have been removed, the containment sphere enclosure building concrete and steel roof removed, 80% cuts for the five openings in the sphere are complete and the Heavy Lift Crane (HLC) has been assembled and load tested. The crane is nearly 400 feet tall and is more visible from Interstate 5 that passes to the East of the SONGS property than the Unit 2&3 containment domes.

The component lifts will be completed in October of 2002. The SG's, pressurizer and RPV Head will be at the Envirocare of Utah disposal site before the end of the year. The Reactor Vessel is scheduled to move to Barnwell, South Carolina early in 2003.



Heavy Lift Crane at SONGS Unit 1

MAINE YANKEE DECOMMISSIONING UPDATE

Maine Yankee's decommissioning began in August 1997 and is scheduled to be finished in 2005. The project is about 67 percent complete and has achieved considerable success during 2002. With a workforce of about 440 and 3.8 million hours worked on the project there have been just seven lost time injuries. At more than two-thirds complete, worker dose for the project is about 466 person-REM or 42 percent of the NRC limit of 1115 person-REM.

On August 19th the first of 60 canisters of spent fuel was safely moved from the fuel pool to the Independent Spent Fuel Storage Installation. Fuel transfer is scheduled to be complete by early fall 2003. Also stored at the ISFSI are four canisters of Greater Than Class C waste from the segmentation of the reactor pressure vessel internals.

Another significant accomplishment was the successful removal in early September of the reactor pressure vessel from containment. The RPV is currently packaged on its transport skid awaiting shipment by barge to Barnwell, South Carolina when water levels in the Savannah River are favorable. Remaining commodity removal in preparation for containment demolition is underway. Containment demolition is scheduled to be complete in fall 2004.

Structures demolished this year include the information center, the fire pond, service and spray buildings, the steam and valve house, and the reactor motor control center. To date more than 100 million pounds of waste have been shipped from the site which is about 43 percent of the total. Final status survey work is ongoing.

In the regulatory arena, the Nuclear Regulatory Commission in July granted Maine Yankee a license amendment that removes 641 acres of the 840 acre site from Maine Yankee's license. This licensing action was the first of its kind in the industry. Maine Yankee also anticipates NRC approval of its license termination plan around the end of the year.

Sampling for potential non-radiological contaminants under the Resource Conservation Recovery Act (RCRA) is largely complete with sample analysis and minor remediation underway.

Maine Yankee's Community Advisory Panel continues its valuable role of providing advice to the company on decommissioning and serving as a liaison to the community. The CAP has now met 41 times and recently crafted a work plan for the remainder of decommissioning. The CAP next meets January 16 but is likely to tour the site this fall.

For more information on Maine Yankee's decommissioning please contact Eric Howes, director of public and government affairs, at 207-882-5875 or Howese@MYAPC.com.



First loaded Vertical Concrete Cask to ISFSI



Reactor Pressure Vessel Lift from Cavity

CONNECTICUT YANKEE DECOMMISSIONING UPDATE

Decommissioning - The decommissioning of the Connecticut Yankee plant is approximately 60% complete. The major work activity in Containment is the continued clean up of the reactor cavity. A new filtration and shielding system has been installed to maintain cavity clarity and cleanliness during this aggressive decontamination phase of cavity work. The guide tube assembly has been removed from the reactor vessel. Removal of the reactor pressure vessel is scheduled to occur next year. Preparation work for the removal of several storage tanks is continuing.

Dry Fuel Storage - Dry fuel storage construction activities are ongoing. Site preparations at the fuel storage pad and along the haul road are nearing completion. Construction of the storage pad has begun with completion scheduled for late fall. Forty-three Vertical Concrete Containers have been fabricated on site. Modifications to the Spent Fuel Pool are expected to begin in late fall of 2002 with fuel transfer operations scheduled to begin in the spring of 2003.

License Termination Plan - The remaining issues for the License Termination Plan (LTP) have been resolved with the NRC Staff. The revised LTP was submitted to the NRC on August 20, 2002 and the NRC Staff safety evaluation report is expected in October 2002. CY has requested that the public hearing take place shortly after the NRC Staff SER is issued. Mediated discussions with Citizens Awareness Network (CAN) have resulted in the resolution of all but two contentions. CAN is reviewing the revised LTP to determine if it is willing to continue the negotiation process through the ASLB appointed mediators.

Land Donation - The Conservation Law Foundation (CLF), a New England based environmental advocacy organization, continues to develop a process for potentially donating a major portion of CY's property for open space conservation. CLF has met with over 100 stakeholders and is currently in the process of establishing an advisory committee to guide the land donation process. Through a collaborative process, the multi-stakeholder membership of the advisory committee will review the data gathered and assess the list of potential land donation parties/organizations and land use options. The advisory committee will issue proposal requests and review the proposals, making its recommendation to CY by December 2003.



Last 2 of 43 Vertical Concrete Containers
Under Construction



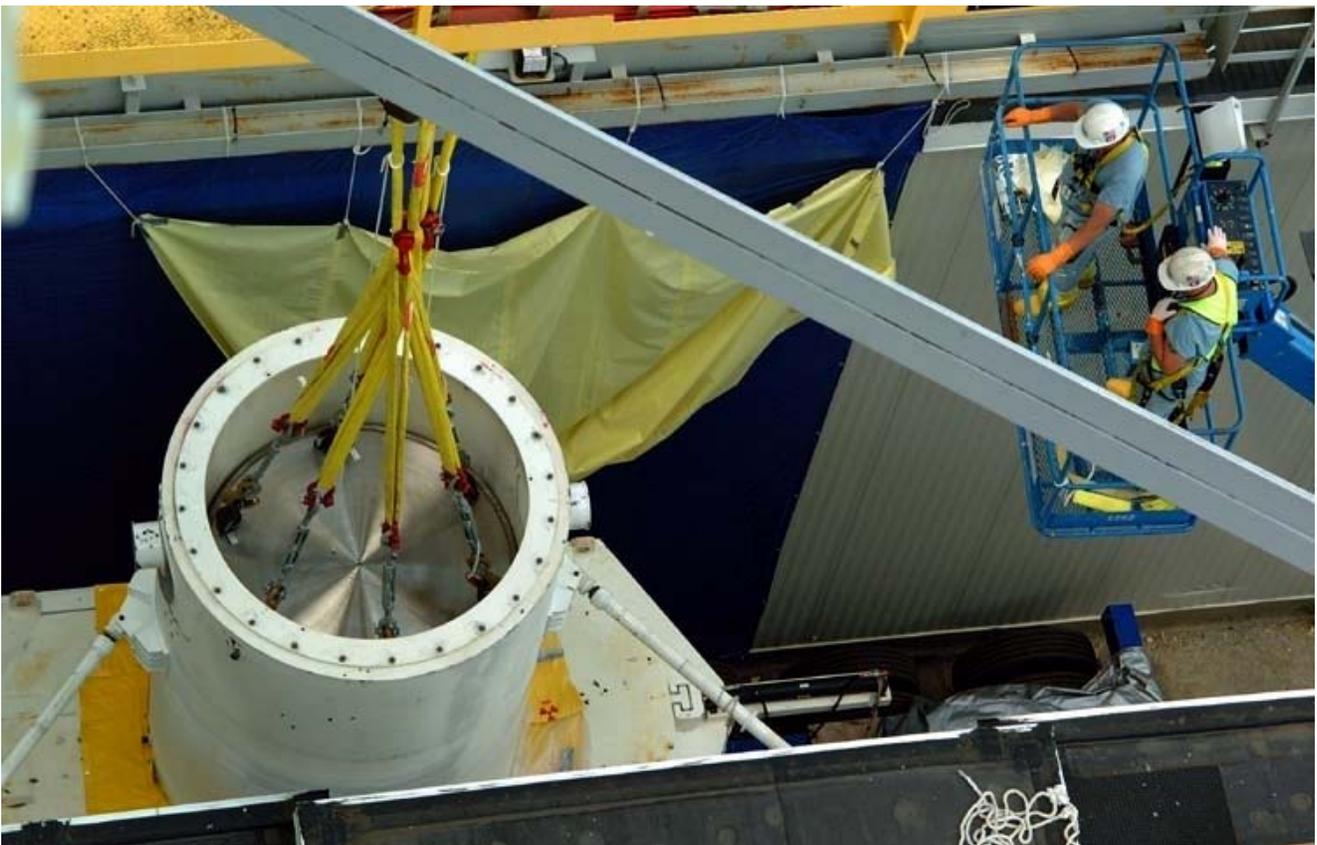
Concrete Pour of Vertical Concrete Containers

YANKEE ROWE DECOMMISSIONING UPDATE

Decommissioning - Yankee Rowe plant activities continue to be focused primarily on fuel transfer operations and fuel inspections. Yankee will complete the remainder of decommissioning – including license termination plan activities, the majority of building dismantlement and site restoration – after the fuel has been transferred to dry storage.

Conservation Law Foundation, a New England based environmental advocacy organization, continues to assist Yankee with the development of a Site Closure Plan for the Yankee Nuclear Power Station. Yankee and CLF are working together to reach a consensus with key stakeholders on a site closure plan that addresses non-radiological closure issues resulting from decommissioning. The closure plan will be integrated with the License Termination Plan.

Dry Fuel Storage - Yankee's Fuel Transfer Operations Contractor, NAC International, began fuel transfer operations at Yankee Rowe on June 5, 2002. Six canisters were successfully loaded with fuel from the upper tier spent fuel pool rack before fuel transfer operations were suspended in order to inspect the fuel in the lower tier racks. The nine empty upper tier fuel racks have been cleaned and removed from the spent fuel pool. Visual inspections and fuel sipping of 165 fuel assemblies in the lower tier racks will be conducted during September and October. Fuel loading will resume after the NRC acts on NRC Certificate of Compliance licensing issues.



Transportable Storage Canister Being Lowered Through Transfer Cask in Vertical Storage Container

TROJAN DECOMMISSIONING UPDATE

Final Survey - The final survey of the Containment Building interior, which included the floor and wall liner plate and the reactor cavity, was completed in May 2002. The NRC then independently checked this portion of the final survey in August 2002. Final surveys of other Plant areas, specifically those where direct radiation measurements may be impacted once the ISFSI fuel loading activities commence, are in progress and are scheduled to complete in October 2002. Surveys of building exteriors will be performed as time and weather permit. Progress of surveys inside and outside of buildings is expected to be impacted by spent fuel loading activities later this year.

ISFSI Project - The 10 CFR 72 license amendment request for the Trojan Independent Spent Fuel Storage Installation (ISFSI) was submitted to the NRC on October 29, 2001. This document reflects the Holtec International current design and the components from the Trojan ISFSI (such as the existing ISFSI pad, concrete casks, and transfer station). The NRC technical review of the Trojan Part 72 license amendment started in late January 2002 with approval expected in late October 2002. The NRC's request for additional information was received in late April 2002 and the final RAI responses were submitted to the NRC in late July. Holtec submitted their Part 71 license amendment incorporating the Trojan spent fuel components to the NRC in late May 2002.

On-site mobilization of Holtec personnel started in late July 2002. Procedures have been developed for the fuel transfer operations from the spent fuel pool to the ISFSI. General Employee Training, system specific training classes, and OJTs are in progress. Certified Fuel Handler Training is also in progress.



Concrete Cask Movement OJTs

Fabrication activities for the Trojan ISFSI components continue. As of September 26, 2002, 20 of the 34 multi-purpose canisters that will be loaded have been delivered to Trojan. Fuel loading is scheduled to begin in November 2002.

Trojan Decommissioning (Continued)



MPC Laydown Area

The remaining major tasks associated with the ISFSI Project include licensing, fabrication of the remaining spent fuel canisters, training of fuel load personnel, and loading of the canisters. Engineering support for field changes and enhancements from lessons learned are being provided as required.

BIG ROCK POINT DECOMMISSIONING UPDATE

The arrival of the first ever fully compliant reactor vessel transportation container to be designed, manufactured, and licensed in the United States highlighted restoration efforts over the past quarter at Big Rock Point. The container is a 25-foot long steel cylinder that is 13 feet in diameter and weighs 230,000 pounds. A special 205-foot long truck and trailer unit that included 20 axels and 78 tires was used to transport the container on its circuitous 1,200 mile, 10 day journey from York, Penn. to Charlevoix, Mich. Big Rock Point's reactor vessel will be packaged in the container and shipped to Barnwell, S.C. for final disposal in 2003. BNFL, Inc. has responsibility for major component removal at Big Rock Point and contracted Precision Components Corporation to construct the container.

Grassroots democracy by the Big Rock Point Citizen Advisory Board (CAB) played a significant role in helping Yucca Mountain legislation pass. CAB chairman Don Smith, a Charlevoix County commissioner, was a tireless advocate in promoting the virtues of Yucca Mountain. Mr. Smith and other Consumers Energy employees traveled Michigan encouraging elected officials, governmental bodies, newspaper editorial boards and other opinion leaders to pass resolutions in support of opening Yucca Mountain. The CAB also sent Yucca Mountain support letters to President Bush, Energy Secretary Abraham and Michigan's elected officials.

[Big Rock Point \(Continued\)](#)

Other significant achievements and events include:

- The plant's low-level radioactive waste building was demolished and a temporary LLW building erected. Demolition of the existing building allowed the overall project schedule to move forward. The temporary building was erected to support the demolition of the existing LLW building and future debris packaging needs.
- A team of eight Italian nuclear experts visited Big Rock Point to learn more about decommissioning. The team was from the country's regulatory agency ANPA and Sogin, the utility responsible for decommissioning four plants.
- Tracy Goble, the site's environmental services and emergency planning superintendent, was elected to the American Nuclear Society's Decontamination, Decommissioning and Reutilization Division Executive Committee.
- The plant's five-year restoration anniversary was recognized with numerous events Aug. 23. A highlight included a tour of all dry fuel storage components and locations for all plant employees.



The reactor vessel shipping container en route to Big Rock Point. Photo courtesy BNFL

Safe progress, Safe closure is the watchword at the Rocky Flats Environmental Technology Site as it advances toward closure. In the process, the site continues to break new ground as it meets the challenge of tearing down the former nuclear weapons component manufacturing facility.

A key element in meeting Rocky Flats' safe closure goals is adapting existing technology to meet the needs of this nuclear decommissioning project. Among the technologies being adapted to nuclear decommissioning are glovebox foaming, cutting large steel tanks with water and a spray-on coating for contaminated equipment.

The glovebox foaming technique allows disposing of gloveboxes without removing lead windows and sheathing. Once decontaminated, generally by using a chemical process, the gloveboxes are filled with a foam that stabilizes the interior and allows the entire glovebox to meet the criteria for disposal at Envirocare in Utah.

Faced with the challenge of containing large, low-level contaminated equipment, the site worked with a vendor to develop a spray-on polyurea coating that was approved as a compliant shipping container for shipping to the Nevada Test Site. By using the coating Rocky Flats increased the safety and cost efficiency of shipping a 55,000-pound supercompactor and two contaminated furnaces to NTS.

Steel tanks that are too large to be removed from buildings whole are being cut up with an ultra-high pressure, abrasive water jet system. The "water laser" is safer and faster than traditional manual methods for cutting the giant tanks.

While adapting existing technology to meet specific cleanup needs is economical and saves time, the site also has invested in developing new technologies to improve workplace safety and reduce the total amount of waste that must be disposed of during decommissioning and demolition.

Glenn Doyle, DOE, Virgene Ideker, Kaiser-Hill, and James Siegwarth, National Institute of Standards and Technology, recently earned a patent for a prototype model of a cryogenic waste shredding and sampling system. Simply stated, the system developed by the team maintains the temperature of the contents of a waste drum at 77 degrees Kelvin (-197 degrees Celsius) so it can be shredded, mixed and remotely sampled without degrading the contaminants.

Samples produced by the prototype system demonstrated order of magnitude increases in accuracy and were fully representative of the materials and (surrogate) contaminants used for the tests. Although this technology might not be fully developed in time to directly benefit Rocky Flats' closure, other DOE sites will be able take advantage of the system's additional benefits: lower risk to workers, less waste volume, a better waste form for mixing with encapsulation media and less new waste produced obtaining the samples.

Rocky Flats also integrated state-of-the-art instrumentation and mechanical technologies and had new software invented in order to develop an assay system for standard waste boxes that reduces the need to size reduce gloveboxes and tanks, one of the site's greatest risks to worker safety.

Rocky Flats worked with the Los Alamos National Laboratory, which invented the new software, to build the Super HENC assay system for standard waste boxes. Super HENC cuts size reduction needs on transuranic (TRU) gloveboxes and tanks four to six times and cuts certification and handling of waste seven to 10 times.

By adapting existing and new technologies to the unique challenges arising during cleanup, the site was able to surpass its previous record for radiological waste shipments. For the third year in a row, Rocky Flats was the top shipper of TRU waste to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, N.M. and, for the fourth straight year, shipped more low-level waste to the Nevada Test Site (NTS) than any other DOE site.

Rocky Flats (Continued)

Rocky Flats shipped more than 2,800 cubic meters of TRU waste to WIPP during FY2002; triple the amount shipped the previous fiscal year, and shipped approximately 28,000 cubic meters of low-level waste to NTS. This is as much waste as was shipped during the previous three years combined.

The pace of demolition of buildings at Rocky Flats continues to accelerate. Since March, three major buildings and three trailer complexes in the site's industrial area have been demolished. In addition, remediation of the notorious 903 Pad, where leaky drums of plutonium contaminated oil were stored during the 1960's, is well under way.



Glovebox Interior Foamed for Disposal
Without Removal of Leaded Glass & Shielding



Furnace Coated with Spray-On Polyurea Coating
for Shipment

DOE NATIONAL ENERGY TECHNOLOGY LABORATORY UPDATE

The National Energy Technology Laboratory's (NETL) Large Scale Demonstration and Deployment Projects (LSDDPs) continue to be highly successful in reducing the cost of cleanup, accelerating cleanup schedules and enhancing worker safety. Through cooperation and coordination with DOE sites, innovative technologies are identified, demonstrated, and then deployed. Two such projects supported in FY02 are the Idaho National Engineering and Environmental Laboratory (INEEL) Fuel Pools and Material Dispositioning Project and the Los Alamos National Laboratory (LANL) Tritium Project. Both projects were highly successful in deploying technologies that responded to the redirection of DOE's Office of Science and Technology (OST) to address closure site needs and emphasize cost savings.

NETL Update (Continued)

INEEL – The scope of the INEEL LSDDP project was to deploy innovative or improved technologies a minimum of 14 times over the project life cycle, which was originally scheduled to end in FY04. The technologies selected for deployment included contaminated material dispositioning and disassembly technologies as well as technologies for deactivation and decommissioning (D&D) of reactor fuel pools and associated facilities. The INEEL LSDDP deployed 11 technologies on 21 different occasions at four sites in just one year, exceeding the expected number of deployments by 50%. Each of these technologies remains the new baseline for at least one site. Cost savings for the INEEL project are projected to be \$8.7 million with an equipment investment of \$118 thousand.

LANL - The LANL Tritium LSDDP utilized previously demonstrated innovative technologies for the deactivation, decontamination, and decommissioning of DOE's tritium facilities. Eleven technologies were deployed on 26 occasions. Estimates on the cost savings for DOE are still being compiled, but current data supports a total estimated savings of \$3,955,000 from a total equipment cost of \$291,490 from the project.

These two projects have been exemplary in producing benefits for DOE's Environmental Management Program. In addition to the project specific cost savings at each site, equipment has been and will continue to be transferable for deployment at other sites. It is a focus of NETL's efforts to multiply successes of EM funded projects across the complex.

FERMI 1 DECOMMISSIONING UPDATE

Fermi 1 has recently had another successful sodium process. The three Primary Sodium Tanks have been safely reacted using steam as the reactant. This is the first time, to the best of our knowledge, that steam has been used to react primary sodium tank residues in nuclear decommissioning history. Fluid that is presently stored in the secondary tanks will soon be transferred to the primary tanks. The neutralized fluid from our processing will be used to help future processing.



The pictures show our sodium crew chiefs at the control panel and instrumentation for the sodium process. Nitrogen is used to ensure the system is inert and prevent oxygen from entering the system. Temperature and hydrogen are monitored to see the progress of the reaction. Peak temperatures are typically 1000 degrees, and the hydrogen concentration typically exceeds 30% in the effluent!

Other equipment removal is in progress. Fermi 1 is implementing a new hazard assessment program. The program includes but is not limited to the constraints for dismantling and disposing of PCB-containing waste and painted debris.

SAXTON DECOMMISSIONING UPDATE

The main dismantlement activity at the Saxton Facility is removal of the concrete from inside the Saxton Containment. The Saxton Containment is somewhat unique in that it is an approximately 100 foot long steel vessel, half of which is underground. The shell has an 18 inch thick concrete liner to support it from collapse due to soil and groundwater pressure. Due to the discovery of contamination on the shell, even in areas where the surface concrete was not contaminated, a decision was made to remove all the concrete from the containment. Concrete removal from the Saxton Containment started in February 2002 and is nearing completion with a projected end date in mid-October. This will complete the last major work activity at the Saxton site. The following pictures provide some perspective on the project.



Ring Beam Installation to Provide Buckling Support



Installation of Work Platform, Bottom Looking Up



From the Top Looking Down, Installation of Third Support Ring

In conjunction with the completion of work the Saxton project staff has been meeting regularly with the Nuclear Regulatory Commission's staff to resolve the outstanding issues on Saxton's License Termination Plan. Based on the success of these meetings, an updated License Termination Plan was submitted on September 30, 2002. The current schedule projects the Final Status Survey being completed and license termination by July 31, 2003.

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Ten Reasons You Should Subscribe to *Radwaste Solutions Magazine*, By Nancy Zacha, Editor

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